Sheep EA

Transportation Report

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for:
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7/22/19

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Introduction

This report will focus on the motor vehicle transportation system within the Sheep Project Area Boundary. The following analysis is intended to meet the intent of a Travel Analysis Report (TAR) as required by Forest Service Manual (FSM) 7712 and Forest Service Handbook (FSH) 7709.55, Chapter 21, while also providing the necessary information to complete an environmental assessment in accordance with NEPA.

The proposed activities and the impacts to the transportation system will be evaluated. The associated actions will be the necessary road reconstruction, roadway maintenance to haul material and equipment to and from harvest locations, the use of existing stored roads, and potential decommissioning or storage of unneeded roads.

Road data is compiled from the Forest Service INFRA database and GIS as of 8/29/2020. Miles of road are reported as GIS miles and could vary from the actual miles on the ground depending on the accuracy of the map alignment, road grades, and overall length. There are existing non-system roads on the ground from past activities including abandoned logging roads, user built two tracks, and roads on private land. These non-system roads are not a part of the recognized transportation system and are not accounted for in this report.

Maintenance levels are assigned for each road in the transportation system. Each road is identified by both an operational maintenance level (reflecting existing conditions) and an objective maintenance level (identifying a long term maintenance level that has been analyzed and approved, which may still need to be implemented). Operational maintenance level is defined as "the maintenance level currently assigned to a road considering today's needs, road condition, budget constraints, and environmental concerns." (FSH 7709.59, 62.31). In this report maintenance levels will be presented as the operational maintenance unless otherwise noted. Maintenance Levels (ML) assigned in this project area are ML 1, ML 2, ML 3, ML 4, and ML 5:

- ML 1: Roads that have been placed in storage between intermittent uses;
- ML 2: Roads open for use by high-clearance vehicles;
- ML 3: Roads open and maintained for travel by a prudent driver in a standard passenger car;
- ML 4: Roads that provide a moderate degree of user comfort and convenience at moderate travel speeds.
- ML 5: Roads that provide a high degree of user comfort and convenience.

Existing Condition

The area was first settled in the late 1800's after the discovery of gold along the Grande Ronde River, the Carson Mine, and following mineral exploration in nearby drainages. Sheep ranchers using the area for grazing were also some of the first inhabitants. The first roads were early wagon roads constructed to link the different settlements and mines around the region. Logging and road construction began in the mid-elevation and steeper ground in the 1960's continuing to today. Most of the current road system in the project area was constructed during the 1960's & 1970's, with some major reconstruction of older roads occurring in the 1980s. The main public roads in the area are Oregon State Highways 244, Union County road 149, and National Forest System Roads 5100 & 5200.

There are approximately 238.4 miles of National Forest System roads (NFSR) in the Sheep Project Area. Of this 72.7 miles are managed as open and 165.7 miles are managed as stored by objective maintenance level. The open roads are maintenance levels 2, 3, & 5 while the stored roads are maintenance level 1's. There are approximately 98.77 miles of Forest Service roads in the project area that are operationally open and usable by a full-size vehicle. The difference in open miles of road is mainly attributable to roads that have breached earthen berms, open gates, or roads that were never physically stored. The main Forest Service roads in the project area are 51, 52, 5155, 5160, 5182, and 5184.

Bridges

There are several bridges in the project area and throughout the road system

Bridge	Road #	Existing Condition Description
Sheep Creek #2	5160	Concrete bridge built in 2016. Bridge is in good condition and adequate to haul safely.
East Sheep Creek	5184	Built in 2016. Bridge is in good condition and adequate to haul safely.
Sheep Creek #3	5182500	Built in 2018. Bridge is in good condition and adequate to haul safely.
Sheep Creek #1	5100	Wooden Bridge over Sheep Creek. Bridge is in good condition and adequate to haul safely.

Rock and Aggregate Material Sources

Developed material sources within the project area are available for future use. Rock material produced from these sources would be utilized for pit-run, borrow, road surfacing, and subgrade reinforcement in areas where springs or seeps have developed. Each of these sites has previously been developed and 2,500 to 5,000 cubic yards of material could be crushed and stockpiled from these sources. The pit development areas are not proposed for expansion. In addition, there are smaller roadside borrow sites that may be used. No additional developed material sites are proposed.

Source	Road Access	Township and Range	Material
West Chicken Creek	5164180	T6S R35E Sec 22	Pit Run, Rip Rap
Sheep Creek Trib	5182800	T6S R35.5E Sec 10	Pit Run, Rip Rap
West Chicken Creek #2	5175020	T6S R35.5E Sec 15	Pit Run, Rip Rap
Upper Chicken	5100700	T6S R35.5E Sec 35	Pit Run, Rip Rap
Chicken Creek Trib	5178000	T6S R36E Sec 19	Crushed Aggregate, Pit, Rip Rap
West Chicken	5175319	T6S R35.5E Sec 22	Pit Run, Rip Rap
Meadowbrook Creek	5178085	T6S R36E Sec 19	Pit Run, Rip Rap
Little Fly Creek	5160157	T6S R35E Sec 3	Crushed Aggregate, Pit Run, Rip Rap

Sheep Creek Trib	5160140	T6S R35.5E Sec 4	Pit Run, Rip Rap
Sheep Creek	5182000	T6S R35E Sec 26	Pit Run, Rip Rap

Right of Way

The Forest Service doesn't anticipate a need to acquire any easements before project implementation. A large area of private property bisecting the project area near the north end of the project has existing easements for most of the transportation system. This analysis will only include roads that either have a right of way across private land or are on National Forest Lands.

Travel Restricted Areas

There is one travel restricted area within the analysis area. The Trail Creek travel management area is on the south side of Chicken Hill from most of the project bordered by the 51, 52, and 73 roads. The area currently restricts motorized access three days before rifle elk season,10/25, through the end of the general spike elk season 11/15.

Designated Snow Mobile Routes

Numerous groomed snowmobile routes exist throughout the project area. Snowmobile routes restrict non-over-snow vehicles during groomed periods. These closures are posted on the ground to reduce user conflicts, provide public safety, and identify motorized winter recreation opportunities. Some of the prominent snow mobile routes in the project area include roads: 5100, 5200, 5160, 5182, 5184, 5185, and 7325. These closures apply from 12/15 through 4/15 to allow for snowmobile use.

Roads Dual Designated as Trails and Roads:

Roads dual designated as an ATV trail and system road act as both a trail and a road with several trails overlapping onto a system road template for at least part of their trail route.

Forest Service System Road	Objective Maint. Level
5160012	1
5160030	2
5164030	2
5178000	2
5182800	1
5175020	1

Open Road Density

Road densities were calculated as recommended in the forest plan (pg 4-35), which establishes open-road density guidelines for certain Management Areas (MAs) – MA 1, MA 1W, 3 and 18. The subwatersheds were clipped to the analysis area boundary to be comparable to the open road densities described in the Cumulative Effects.

Roads that are considered open are all National Forest System (NFS) roads that are objective maintenance level 2-5, all county roads, and all state roads within the Project Area Boundary. Private roads, user built roads, and objectively stored NFS roads (ML 1) aren't included in the objective open road density calculation

Subwatershed	MAS Code	Total Acres	Sq. Area (Acres/640)	Open Rd Miles	Open Rd Mile Density
Chicken Creek	1	6,716.42	10.49	10.18	1.02
	15	680.49	1.06	1.58	*
	1W	2,490.15	3.89	3.17	0.81
	3	1,083.15	1.69	4.46	2.64
Sheep Creek	1	11,111.62	17.36	29.72	1.70
	15	79.88	0.12	0.02	*
	1W	4,992.15	7.80	15.9	2.04
	3	2,661.68	4.16	7.69	1.85
Grand Total		29,935.34		72.72	

*Management Area 15, Old Growth roads and watershed area are added to the adjacent Management Area. Miles shown are calculated from GIS. In areas where the square miles are less than 0.1 mi/mi2, the road density has been dropped from the table. Subwatersheds where there are no road miles or relevant management areas (MAs with no Forest Plan open road density requirements) are removed for clarity.

Management Area	FLRMP Open Road Density Guideline (mi/mi^2)
1	2.5
1W	1.5
3	1.5
3A	1.5
18	1.5

Roads that are currently drivable by full sized vehicles are all National Forest System (NFS) roads that are operational maintenance level 2-5, all county roads, and all state roads within the Project Area Boundary. Private roads, user built roads, and operationally stored NFS roads (ML 1) aren't included in the operationally open road density calculation.

The difference between the two numbers are roads that have breached berms, open gates, or where no closure device has been constructed.

SUBWATERSHED	MAS CODE	GIS Acres	Sq. Miles (Acres/640)		Open Rd Miles	Open Rd Mile Density
Chicken Creek	1	6,716.42	10.49		15.54	**1.62**
	15	680.49	1.06		3.16	*
	1W	2,490.15	3.89		6.13	**1.57**
	3	1,083.15	1.69		4.8	**2.83**
Sheep Creek	1	11,111.62	17.36		36.4	**2.08**
	15	79.88	0.12		0.02	*
	1W	4,992.15	7.80		21.23	**2.72**
	3	2,661.68	4.16		11.49	**2.76**
Grand Total		29,935.34			98.77	

Forest Plan Direction

The transportation system under the Wallowa Whitman National Forest Plan is "To provide a safe, efficient, environmentally sound access for the movement of people and materials involved in the use and management of the National Forest Lands" (Forest Plan, p. 4-34).

The Forest Plan includes several standards and guidelines for the transportation system to meet these directions:

- Manage road and trail uses to protect resources, accommodate or restrict conflicting uses, provide reasonable safety, and prevent damage to the facilities. Road and trails may be made available for different user groups at different times, or otherwise restricted through the Forest Travel Management Plan. Stored roads may be converted to other uses such as special purpose trails.
- Protect water quality in all aspects of road and trail system management. Use practices which will avoid or minimize sediment production from new road construction and will correct existing sediment sources.

Access and safety specific standards and guidelines include:

- Conform to Forest Service manuals and handbooks regarding adequacy and safety of the transportation system.
- Manage traffic as needed due to structural limitations of the road or limitations imposed by other resources, such as wildlife or recreation.
- Implement open road density guidelines as opportunities arise. Normally this will be following a timber sale project but may also include special projects aimed at reducing open road densities in key areas.

Environmental Effects

Alternative 1 – No Action

This alternative would have no effect on the project area's existing transportation system. All the same conditions from the existing condition would continue. There would be some routine road maintenance of the main roads in the analysis area on a cyclical basis and some roads would receive more significant drainage maintenance, aggregate placement, or pavement preservation. These actions would be ongoing and dependent upon funding. There would still be use of the transportation system from ongoing forest management, recreation, and special use permits.

The open road densities would be the same from the existing condition with 72.72 miles of objectively open roads and 98.77 miles of operationally open roads. The Forest Service would continue to reinforce berms, construct or implement new physical closures to move the open road densities towards the objective maintenance level.

Effects Common to Alternatives 2 and 3:

Effects related to roads are generally addressed as impacts to other resources such as aquatics, soils, invasive weeds, and wildlife. To address the effects on the transportation system this analysis will focus on road density and maintaining a road system to a physical standard for safe operation by the intended users.

No alternative would increase open road densities. None of the alternatives include adding permanent Forest Service roads, open or stored, to the transportation system. The Forest Plan states:

"Analyze projects which will require construction of new roads or which require opening old roads, with the intent of meeting specific management area road density guideline during the activity. If the analysis indicates that meeting these guidelines during project activity is important in meeting the resource management objective, and if the project will require an open road density in excess of the guideline, then mitigation of the effects of adding open roads will take place where practicable." (Forest Plan, 4-36)

Alternatives two and three would add trail designation to several roads:

5164, 5164180, 5164182, 5164200, 5182580, 5160012, 5160014, 5160043, 5160045, 5175010, 5182800, 5182035, and 5182040 where the motorized trail will share a template with an existing road for portions of its alignment. These trails will not affect the use of these roads or future uses.

The following proposed activities would have no effect on the transportation system:

- Snag retention & Snag creation

The following activities would utilize the transportation system but not change its overall condition:

- Pre-commercial thinning
- Prescribed Fire
- Mechanical Fire lines
- Connective Corridors

The Sheep Vegetation Management project would change the following designations or maintenance levels:

- 5160030 – 0.4 miles for closure/storage, beginning at 5160033 junction
- 5160039 – 0.02 miles proposed for closure/storage
- 5160050 – 0.16 miles proposed for decommission from 5160 to the 5160051 junction
- 5160140 – 0.4 miles proposed for closure/storage
- 5175020 – 1 mile proposed for closure/storage, beginning at 5175030 junction
- 5178 – 1.6 miles proposed for closure/storage by moving the existing gate to the 5178083/5175050 junction

Closing 3.45 miles of open road will lead to the following objective maintenance level road densities in:

Subwatershed	MAS Code	Total Acres	Sq. Area (Acres/640)		Open Rd Miles	Existing Condition Open Rd Density	Alt 2 & 3 Open Rd Density
Chicken Creek	1	6,716.42	10.49		8.98	1.02	0.91
	15	680.49	1.06		1.58	*	*
	1W	2,490.15	3.89		2.74	0.81	0.70
	3	1,083.15	1.69		4.46	2.64	2.64
Sheep Creek	1	11,111.62	17.36		29.12	1.70	1.66
	15	79.88	0.12		0.02	*	*
	1W	4,992.15	7.80		14.7	2.04	1.88
	3	2,661.68	4.16		7.69	1.85	1.85

Forest Plan direction to meet open road density was discussed above. The only management areas where objective open road densities are above forest plan direction are the Chicken Creek and Sheep Creek management area (MA) 3 densities. All alternatives would leave the open road densities above the plan direction of 1.5 road miles per square mile. This is caused by the MA 3 boundaries including the junctions and initial portions of the arterial roads, 51, 5160, 5175, 5178 leading to a road density above the forest plan direction.

MA 1W in the Sheep Creek subwatershed is proposed to remain above the forest plan direction of 1.5 road miles per square mile. 1W is winter range and these roads will be stored during the winter months as outlined in the Forest Plan "On winter ranges adequate road closure will normally result from snow" (Forest Plan, 4-60).

Extending the closure period in the Trail Creek travel management area from the start of rifle bull elk season to the start of bow hunting season will reduce vehicle access in the travel management area during the time frame of 8/26 to 10/25. This could lead to more people concentrating in a smaller network of roads that are available to vehicles during this period and increasing wear and tear maintenance on these roads.

Operationally Open Roads

As discussed above, there is a difference of about 26.05 miles between the operationally open 98.77 road miles, and the objectively open 72.72 road miles. Alternatives two and three would lower this difference to 2.2 miles with 71.49 miles of operationally open road, and 69.29 miles of objectively open roads. The continued difference between the two maintenance levels is due to short sections of roads that access dispersed campsites, roads that are in the project boundary where no action is being taken, or issues with access to private land and easements.

Alternatives 2 and 3

Table XX – Transportation Activities Summary by Alternative

Transportation Activities	Alternative 2 Miles	Alternative 3 Miles

Maintain NF System Roads	101.59	75.56
Open Roads (Maintenance Levels 2-5)	61.87	56.56
Stored Roads (Maintenance Level 1)	39.72	19
Danger Tree Removal Along System Roads	101.59	75.56
Reconstruction of Existing Roads	22.38	7.1
Culvert Replacements	7	1
Fish Passage Barrier Removals	2	2
Total Temporary Road Construction	3.75	3.03
Temporary Road Construction on existing templates	0.44	0.44
Proposed Road Closures	3.45	3.45
Decommission Existing Roads	0.16	0.16

Alternative 2

Direct and Indirect Effects

Maintenance of 101.59 miles of road done by the timber purchasers during the sales would have a beneficial effect on forest service roads. Maintenance generally includes clearing vegetation from the roadway, improving sight distance, performing surface and drainage maintenance which will have a short and long term benefit to the transportation system. This will benefit forest management, public use, and the transportation networks effects to other resources. Alternative two includes opening 39.72 miles of stored road for use during treatment. These roads will be used for commercial haul, then stored after use. 22.38 miles of roads will require reconstruction as defined in the timber sale contract. This generally includes clearing and grubbing vegetation from an existing roadbed, adding permanent surface drainage beyond water bars, and short road realignments of up to 500'. Reconstructing these roads will bring them back up to the standard appropriate for commercial haul. This alternative includes 3.75 miles of non-system temporary roads for timber harvest. These non-system roads are not added to either the Forest Service system or the open road density calculations.

Closing 3.45 miles of open road will reduce the open road densities in both the Chicken Creek and Sheep Creek subwatersheds. Decommissioning the 0.16 miles of NFSR 5160050 will reduce the long-term maintenance of the transportation network, take advantage of alternative access, and remove the need to realign a junction onto the NFSR 5160 where an alternative junction already exists. This alternative also provides the means to reinforce existing or install new road closure devices to move the operational maintenance levels of roads closer to the objective maintenance levels.

Cumulative Effects

The cumulative effects area is the Sheep Creek Project Area during the five-year period following the NEPA decision. During this five-year period road maintenance performed by the harvest activities will alleviate the road maintenance backlog in the project area. Ongoing stream restoration activities, forest management, and special use permits will have little cumulative effects with this alternative other than additional use of the transportation network.

There could be an increase in motorized public accessibility with full sized vehicles to stored roads in the area under this alternative because some actions will open stored roads during operations. This increase should be for a short duration of time as treatment operations will be required to maintain all road closures.

Alternative 3

Direct and Indirect Effects

This alternative utilizes 75.52 miles of roads, 26.03 fewer miles than alternative 2 and won't reduce the road maintenance backlog to the same extent as alternative 2, but greater than alternative 1. Alternative 3 reduces the reconstruction mileage to 7.1 miles which means fewer roads won't be back brought up to their intended standard for the safe use of commercial vehicles. This alternative includes 3.03 miles of non-system temporary roads for timber harvest. These non-system roads are not added to either the Forest Service system or the open road density calculations.

Maintenance done doing operations would have a beneficial effect on forest service roads. Clearing vegetation from the roadway, performing surface and drainage maintenance will have short- and long-term benefits on the transportation system.

This alternative also provides the means to reinforce existing or install new road closure devices to move the operational maintenance levels of roads closer to the objective (desired) maintenance levels to the same extent as alternative 2.

Cumulative Effects

The cumulative effects for alternative 3 are similar to alternative 2. There could be an increase in motorized public accessibility with full size vehicles to stored roads in the area under this alternative because some actions will open stored roads during operations. Using 20.72 fewer miles of stored roads will reduce this effect from alternative 2 but be an increase from alternative 1. This increase should be for a short duration of time as treatment operations will be required to maintain all road closures.